

this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required therefor (including fees for net addition of claims) are hereby authorized to be charged to our Deposit Account No. 19-0036.

Amendments

In the Claims:

Please cancel claim 60 without prejudice to or disclaimer of the subject matter therein.

Please substitute the following claim 45 for the pending claim 45:

45. (Thrice amended) A method for enhancing the transformation ability and the viability of a bacterium, said method comprising:

- (a) increasing the unsaturated fatty acid content of the membrane of said bacterium, and
- (b) storing said bacterium at a temperature of from about +4°C to about -80°C, wherein said bacterium, after said storing, exhibits enhanced transformation ability and enhanced viability relative to the transformation ability and viability exhibited by said bacterium prior to increasing its unsaturated fatty acid content.

[Please substitute the following claim 46 for the pending claim 46:]

46. (Thrice amended) A method for enhancing the transformation ability and the viability of bacteria, said method comprising:

(a) increasing the unsaturated fatty acid content of the membrane of said bacteria, and

(b) storing said bacteria at a temperature of from about +4°C to about -80°C, wherein said bacteria, after said storing, exhibit enhanced transformation ability and enhanced viability relative to the transformation ability and viability exhibited by said bacteria prior to increasing their unsaturated fatty acid content.

Please substitute the following claim 47 for the pending claim 47:

47. (Twice amended) The method of claim 46, wherein said storing of said bacteria is at a temperature of from about +4°C to about -20°C.

Please substitute the following claim 48 for the pending claim 48:

48. (Once amended) The method of claim 46, wherein said increasing the unsaturated fatty acid content of the membrane comprises enhancing expression of one or more genes that encode one or more gene products which increase said unsaturated fatty acid content.

Please substitute the following claim 54 for the pending claim 54:

54. (Once amended) The method of claim 46, wherein said unsaturated fatty acid is selected from the group consisting of oleic acid, linoleic acid, palmitoleic acid, and cis-vaccenic acid.

Please substitute the following claim 55 for the pending claim 55:

55. (Once amended) The method of claim 54, wherein said unsaturated fatty acid is selected from the group consisting of cis-vaccenic acid and palmitoleic acid.

Please substitute the following claim 58 for the pending claim 58:

58. (Twice amended) A method for enhancing the transformation ability of a bacterium, said method comprising:

(a) increasing the unsaturated fatty acid content of the membrane of said bacterium by (i) enhancing expression of one or more genes that encode one or more gene products which increase said unsaturated fatty acid content, or (ii) genetically selecting for a bacterium having an increased membrane unsaturated fatty acid content; and

(b) storing said bacterium at a temperature of from about +4°C to about -20°C, wherein said bacterium, after said storing, exhibits enhanced transformation ability relative to the transformation ability exhibited by said bacterium prior to increasing its unsaturated fatty acid content.

Please substitute the following claim 59 for the pending claim 59:

59. (Twice amended) A method for enhancing the transformation ability of bacteria, said method comprising:

(a) increasing the unsaturated fatty acid content of the membrane of said bacteria by (i) enhancing expression of one or more genes that encode one or more gene products which increase said unsaturated fatty acid content, or (ii) genetically selecting for bacteria having an increased membrane unsaturated fatty acid content; and

(b) storing said bacteria at a temperature of from about +4°C to about -20°C, wherein said bacteria, after said storing, exhibit enhanced transformation ability relative to the transformation ability exhibited by said bacteria prior to increasing their unsaturated fatty acid content.

Please substitute the following claim 61 for the pending claim 61:

61. (Once amended) The method of claim 59, wherein said enhancing expression comprises increasing transcription or translation of said one or more genes.

Please substitute the following claim 62 for the pending claim 62:

62. (Twice amended) The method of claim 59, wherein said enhancing expression comprises increasing the copy number of said one or more genes, wherein said one or more genes are comprised by one or more vectors.

Please substitute the following claim 66 for the pending claim 66:

8
66. (Once amended) The method of claim 59, wherein said unsaturated fatty acid is selected from the group consisting of oleic acid, linoleic acid, palmitoleic acid, and cis-vaccenic acid.

Please substitute the following claim 67 for the pending claim 67:

67. (Once amended) The method of claim 66, wherein said unsaturated fatty acid is selected from the group consisting of cis-vaccenic acid and palmitoleic acid.

Please substitute the following claim 68 for the pending claim 68:

68. (Once amended) The method of claim 59, wherein said one or more genes are selected from the group consisting of a *fabB* gene, a *fabF* gene, a *fabD* gene, a *fabG* gene, a *fabA* gene, a *fabI* gene, a *fabZ* gene, a *fadA* gene, a *fadB* gene, a *fadE* gene, a *fadL* gene, a *fadR* gene, a *farR* gene, and a *fatA* gene.

Please add the following new claims:

72. (New) A competent *E. coli* possessing a membrane having an increased unsaturated fatty acid content relative to total fatty acid content, wherein said competent *E.*

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6024.
73. (New) *E. coli* exhibits enhanced transformation ability after storage at a temperature of from about +4°C to about -20°C.

73. (New) The competent *E. coli* of claim 72, wherein said increased unsaturated fatty acid content is caused by the enhanced expression in said *E. coli* of one or more genes that encode one or more gene products that increase said unsaturated fatty acid content.

74. (New) The competent *E. coli* of claim 73, wherein said enhanced expression is the result of increasing transcription or translation of said one or more genes.

75. (New) The competent *E. coli* of claim 73, wherein said enhanced expression is the result of increasing the copy number of said one or more genes.

76. (New) The competent *E. coli* of claim 72, wherein said unsaturated fatty acid is selected from the group consisting of oleic acid, linoleic acid, palmitoleic acid, and cis-vaccenic acid.

77. (New) The competent *E. coli* of claim 76, wherein said unsaturated fatty acid is selected from the group consisting of palmitoleic acid and cis-vaccenic acid.

78. (New) The competent *E. coli* of claim 73, wherein said one or more genes are selected from the group consisting of a *fabB* gene, a *fabF* gene, a *fabD* gene, a *fabG*

gene, a *fabA* gene, a *fabI* gene, a *fabZ* gene, a *fadA* gene, a *fadB* gene, a *fadE* gene, a *fadL* gene, a *fadR* gene, a *farR* gene, and a *fatA* gene.

59
cont

79. (New) The competent *E. coli* of claim 78, wherein said one or more genes is a *fabB* gene.

80. (New) The competent *E. coli* of claim 72, wherein said increased unsaturated fatty acid content is caused by genetically selecting for a bacterium having an increased membrane unsaturated fatty acid content.

81. (New) The method of claim 45, further comprising rendering said bacterium competent.

82. (New) The method of claim 46, further comprising rendering said bacteria competent.

83. (New) The method of claim 58, further comprising rendering said bacterium competent.

84. (New) The method of claim 59, further comprising rendering said bacteria competent.